

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	16
PROJECT FILE NO.		608036	

FINAL RIGHT-OF-WAY
TITLE SHEET & INDEX

PLAN AND PROFILE OF ROUTE 40 (GROTON ROAD) AND OAK HILL ROAD

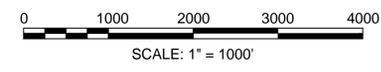
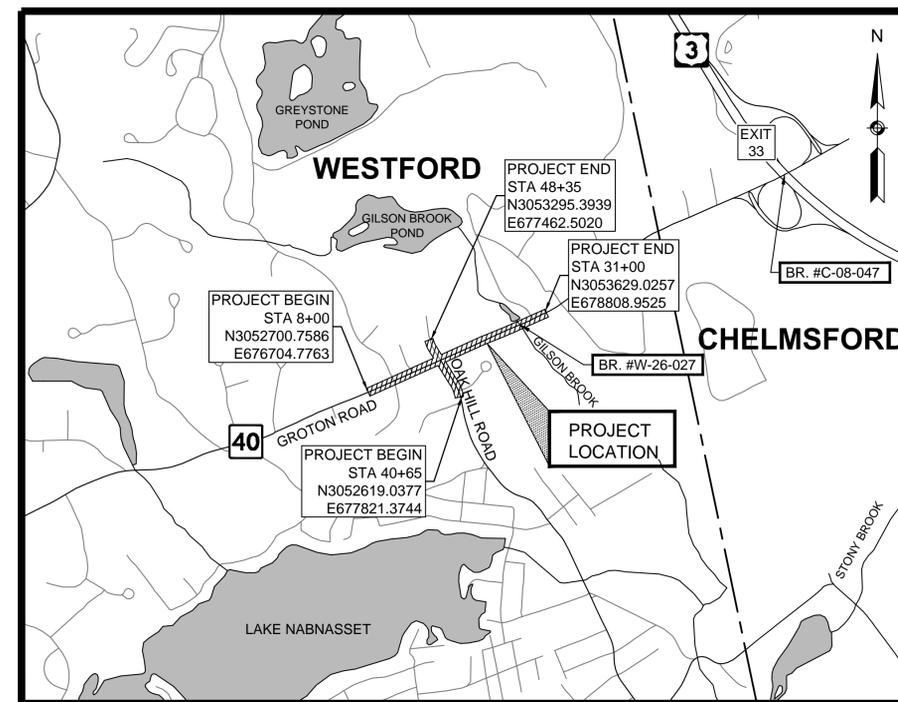
IN THE TOWN OF
WESTFORD
MIDDLESEX COUNTY

FEDERAL AID PROJECT NO.

FINAL ROW PLANS

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012, THE 2016 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS, (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2-3	TYPICAL SECTIONS
4-9	CONSTRUCTION PROFILES
10	PARCEL SUMMARY
11	LOCATION PLAN
12-16	PROPERTY PLANS



LENGTH OF PROJECT = 3,070.00 FEET = 0.581 MILES

DESIGN DESIGNATION

	ROUTE 40 (GROTON ROAD)	OAK HILL ROAD
DESIGN SPEED	40 MPH	30 MPH
ADT (2015)	12,985 VPD	4,730 VPD
ADT (2025)	14,345 VPD	5,225 VPD
K	9.4%	9.5%
D	58.9% WB	52.9% SB
T (PEAK HOUR)	1.0%	0.8%
T (AVERAGE DAY)	1.2%	0.6%
DHV	1,350 VPH	495 VPH
DDHV	795 VPH	260 VPH
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL

DATE	DESCRIPTION	REV #
2/24/2017	100%/PS&E SUBMISSION REVISIONS	6
2/3/2017	100%/PS&E SUBMISSION	5
12/19/2016	INTERIM SUBMISSION	4
11/28/2016	75% REVISED	3
11/15/2016	75% SUBMITTAL	2
6/23/2016	25% REVISED SUBMITTAL	1
4/28/2015	25% SUBMITTAL	-



TEC, Inc.
65 Glenn Street | 169 Ocean Blvd
Lawrence, MA 01843 | Hampton, NH 03842

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE



RECOMMENDED FOR APPROVAL

CHIEF ENGINEER DATE

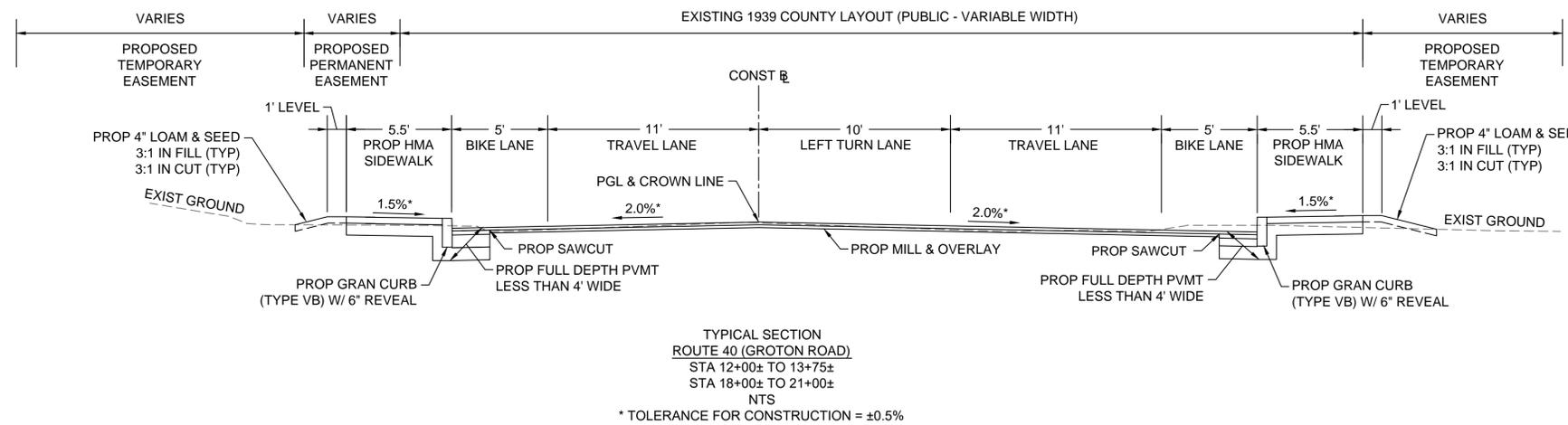
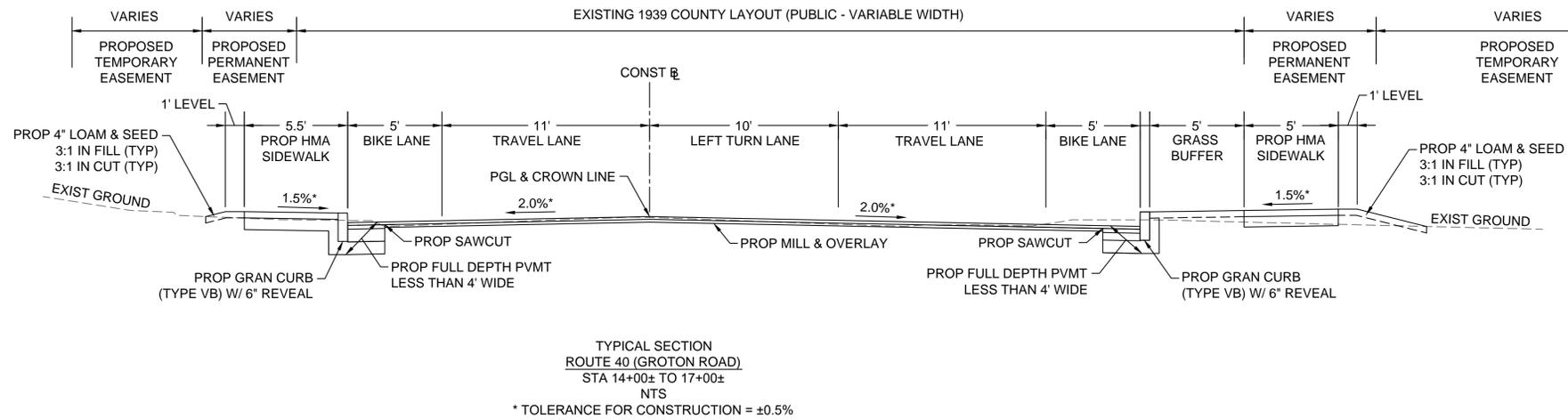
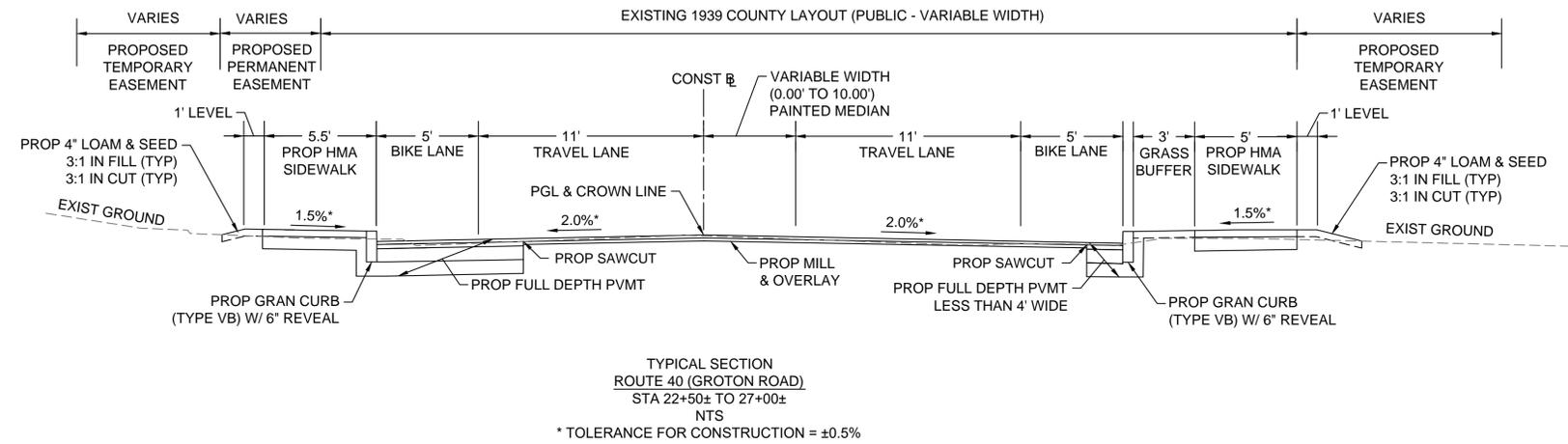
APPROVED

HIGHWAY ADMINISTRATOR DATE

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	16
PROJECT FILE NO.		608036	

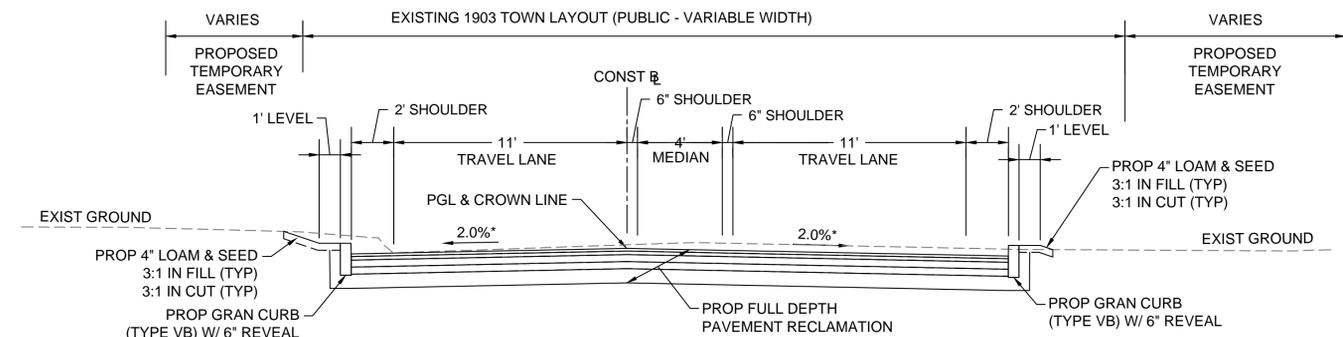
FINAL RIGHT-OF-WAY
TYPICAL SECTIONS
SHEET 1 OF 2



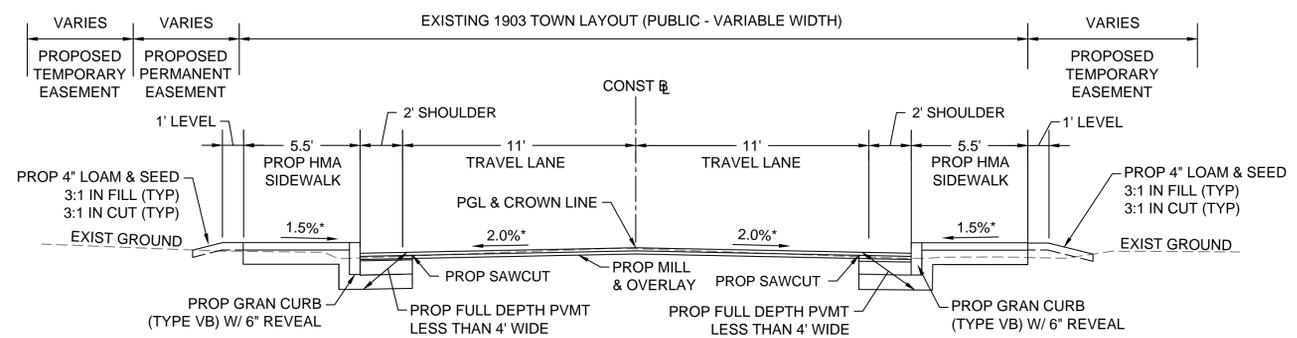
WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	3	16
PROJECT FILE NO.		608036	

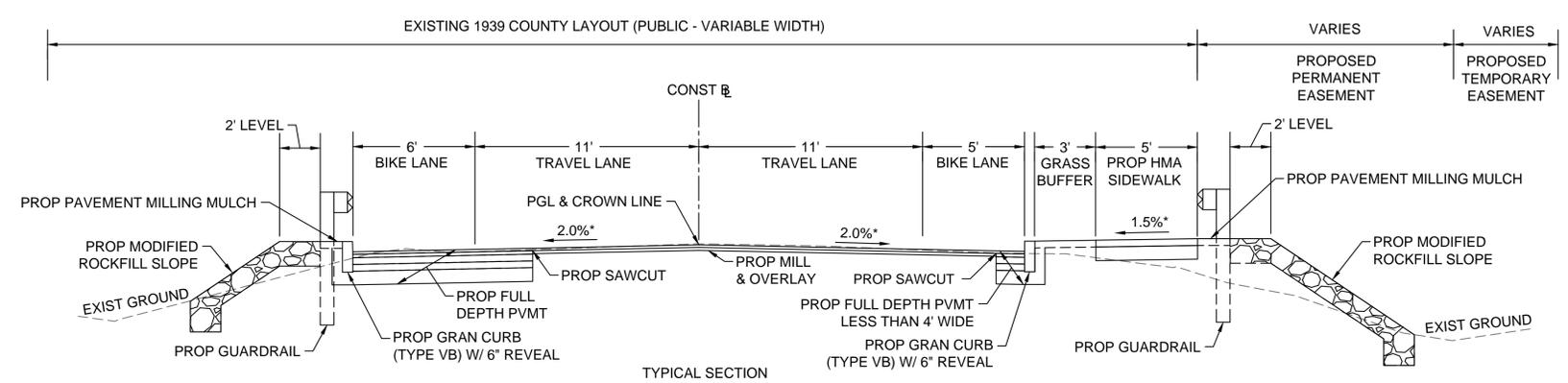
FINAL RIGHT-OF-WAY
TYPICAL SECTIONS
SHEET 2 OF 2



TYPICAL SECTION
OAK HILL ROAD
STA 46+40± TO 48+15±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



TYPICAL SECTION
OAK HILL ROAD
STA 42+00± TO 44+75±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%



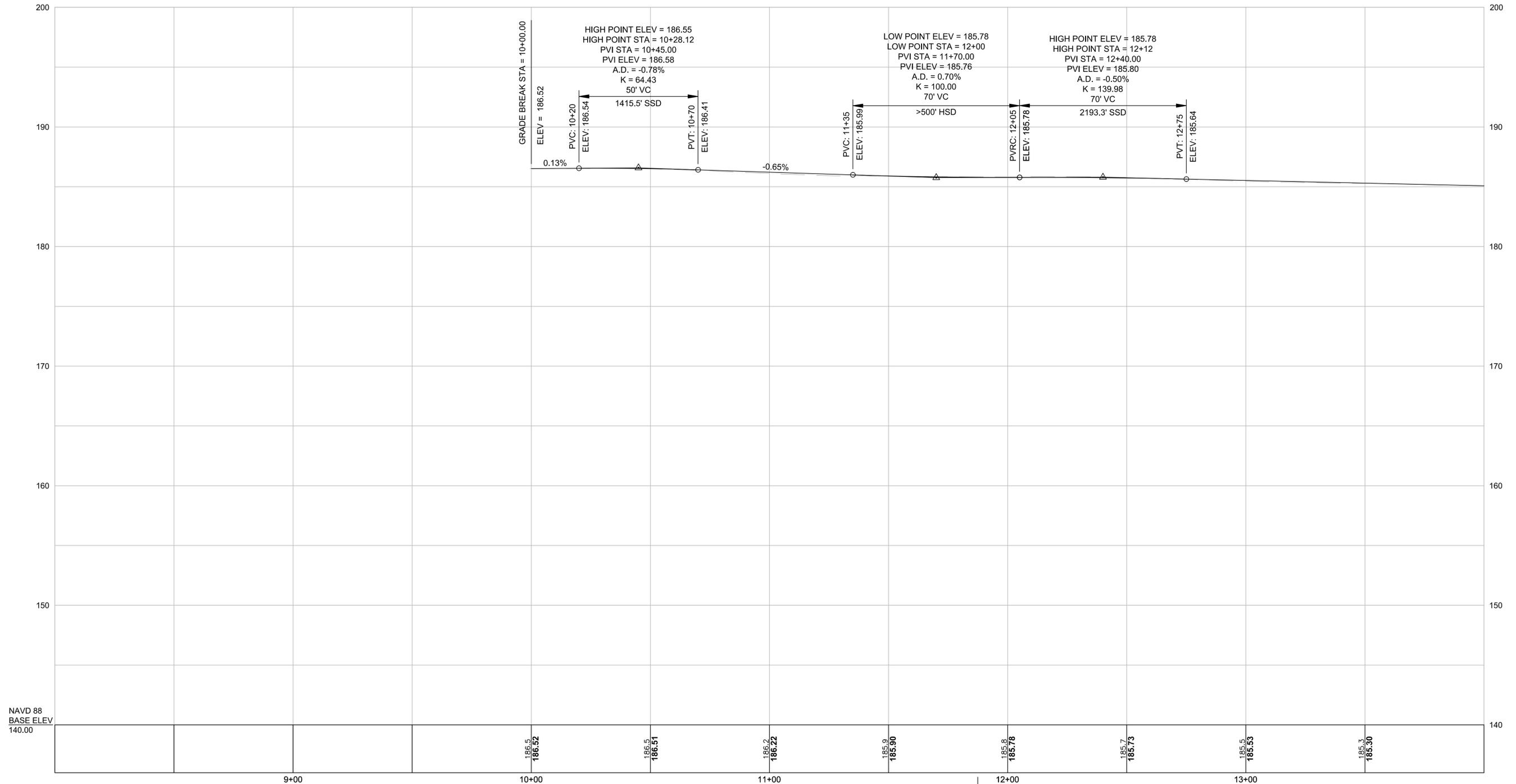
TYPICAL SECTION
ROUTE 40 (GROTON ROAD)
STA 27+00± TO 27+90±
STA 28+20± TO 29+00±
NTS
* TOLERANCE FOR CONSTRUCTION = ±0.5%

GROTON ROAD

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

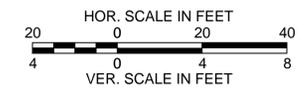
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	16
PROJECT FILE NO.		608036	

**FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 1 OF 6**



NAVD 88
BASE ELEV
140.00

Perm. Benchmark #1
Fire Hydrant
Elevation = 188.34'
(NAVD 1988)
Sta. 11+87.44, 23.5' LT



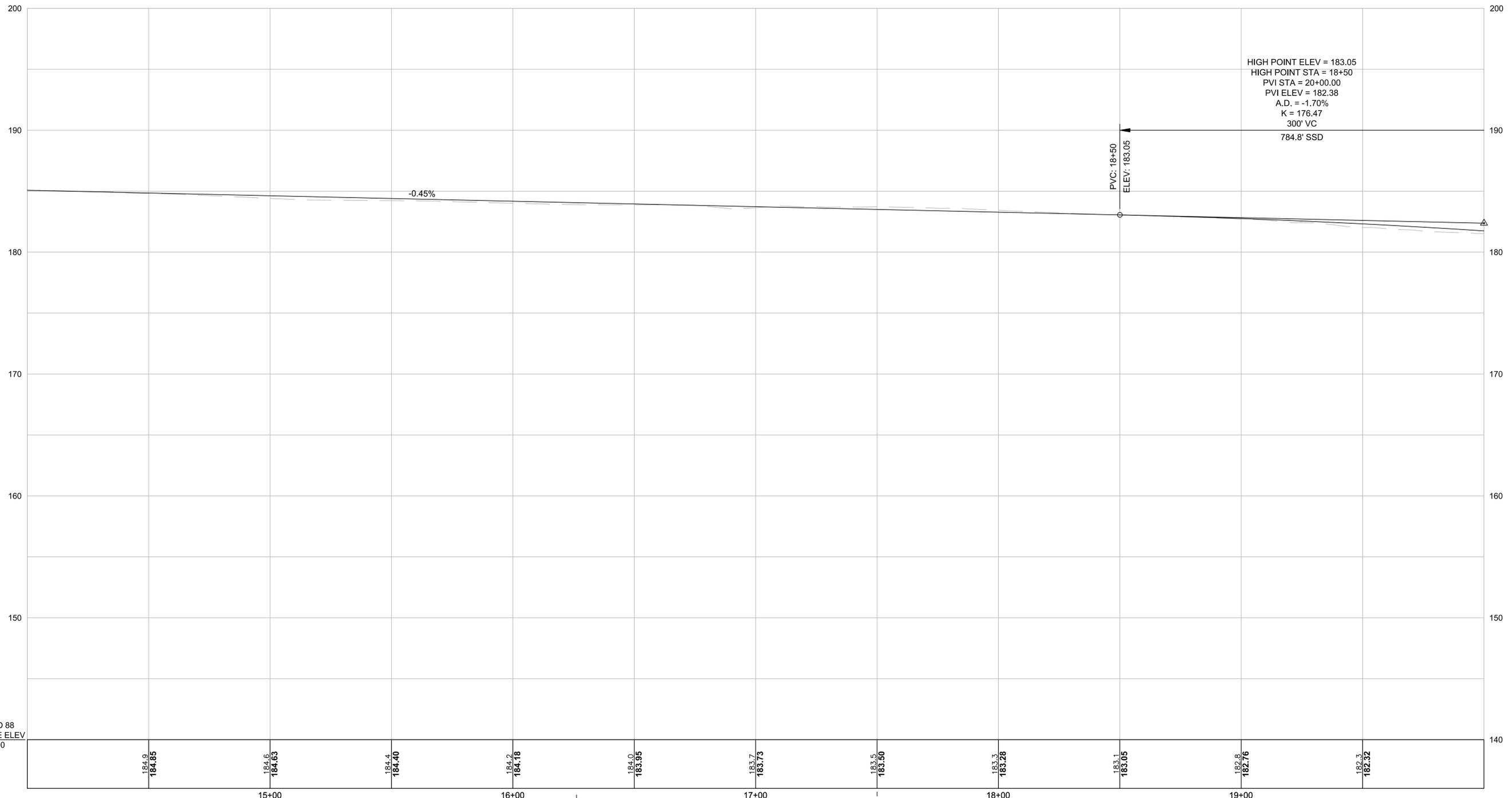
CONTINUED ON
SHEET NO. 5

GROTON ROAD

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	16

PROJECT FILE NO. 608036
FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 2 OF 6



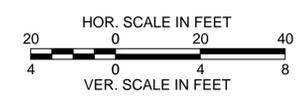
CONTINUED ON
SHEET NO. 4

CONTINUED ON
SHEET NO. 6

NAVD 88
BASE ELEV
140.00

Perm. Benchmark #2
Utility Pole Spike
Elevation = 184.76
(NAVD 1988)
Sta. 16+26.24, 17.8' LT

STA 17+50.00 OAK HILL ROAD @ =
STA 46+00.00 OAK HILL ROAD @



GROTON ROAD

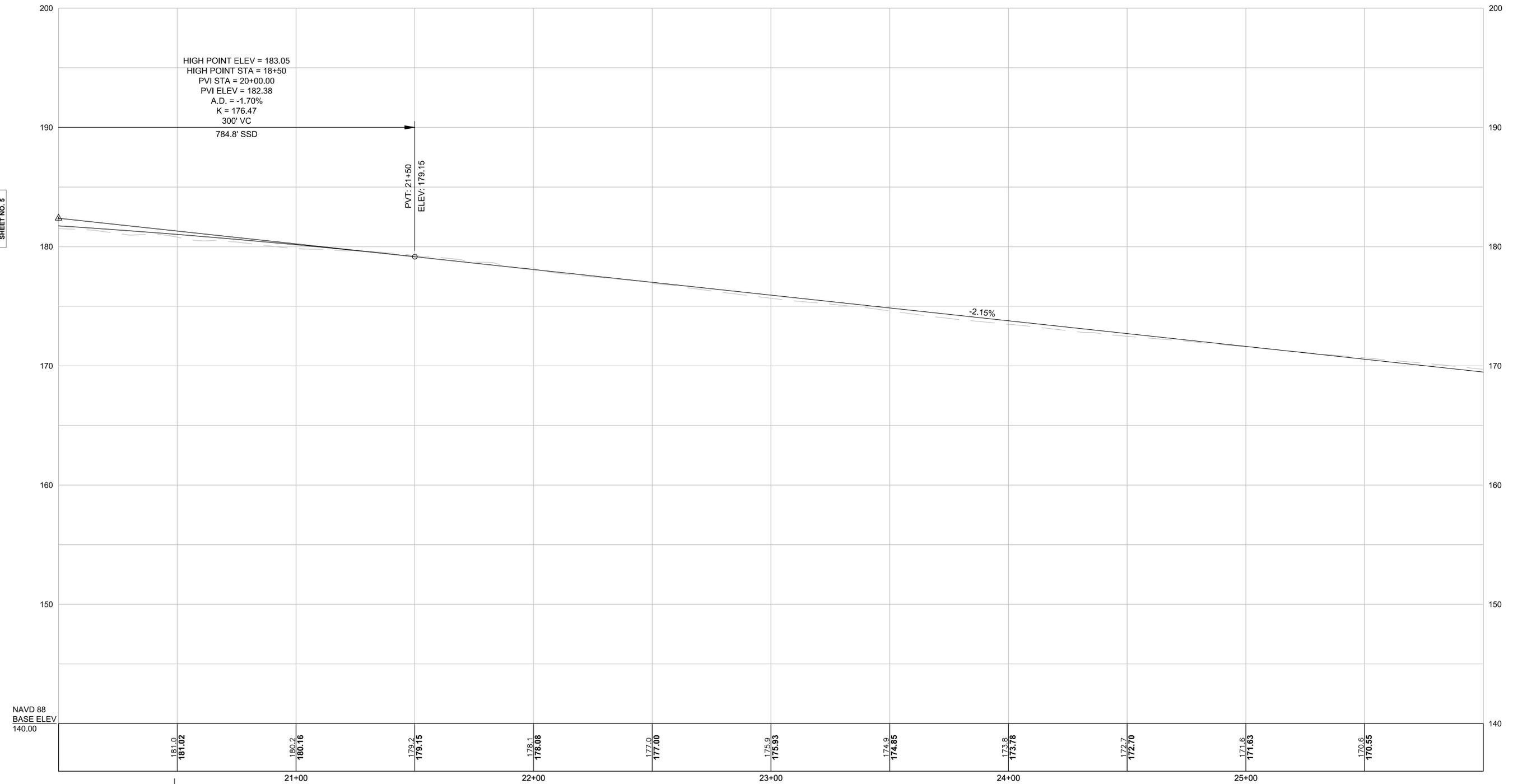
WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	16

PROJECT FILE NO. 608036
FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 3 OF 6

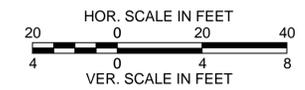
CONTINUED ON
SHEET NO. 5

CONTINUED ON
SHEET NO. 7



NAVD 88
BASE ELEV
140.00

Perm. Benchmark #3
Utility Pole Spike
Elevation = 182.357
(NAVD 1988)
Sta. 20+48.84, 17.6' LT

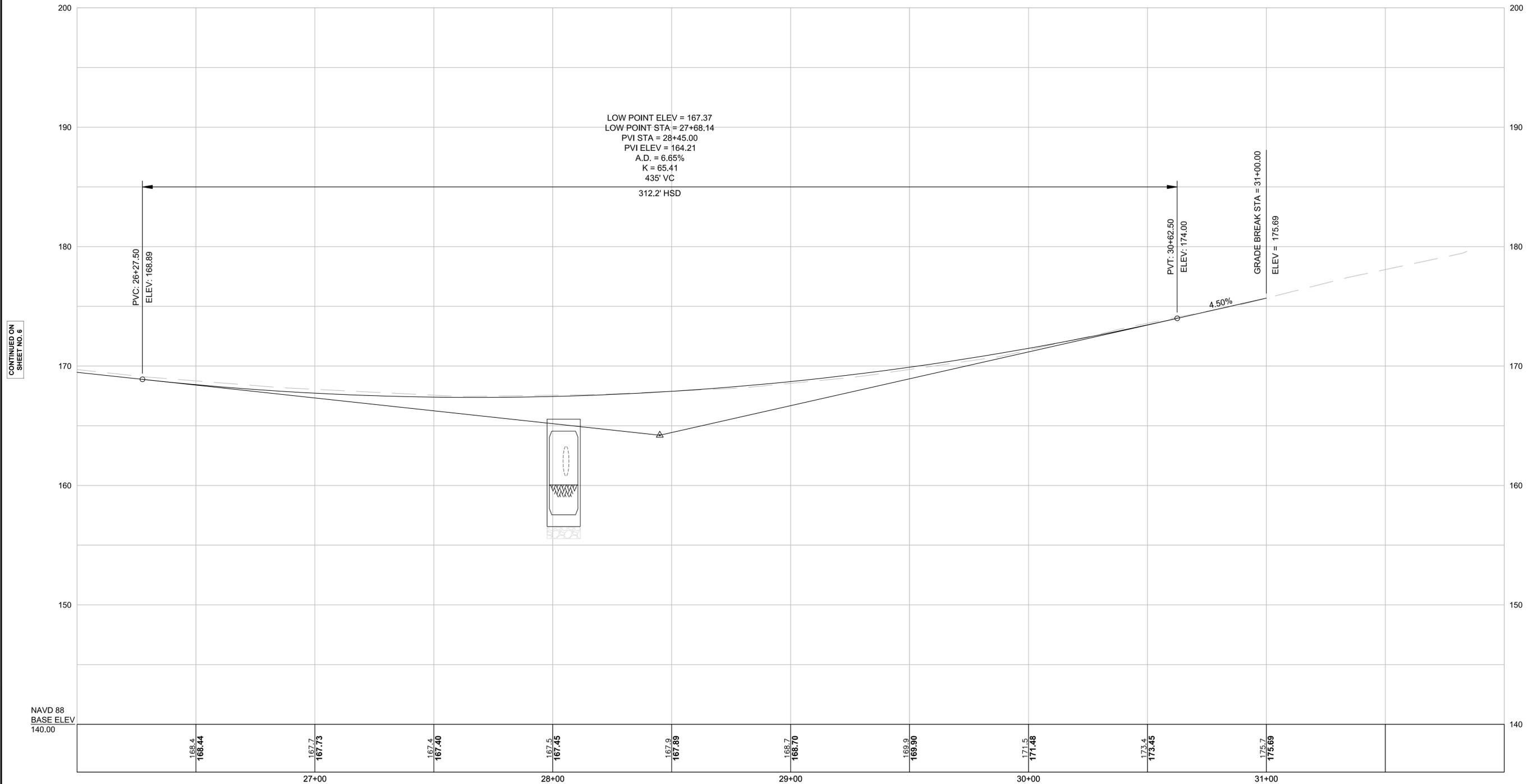


GROTON ROAD

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	16
PROJECT FILE NO.		608036	

FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 4 OF 6



CONTINUED ON
SHEET NO. 6

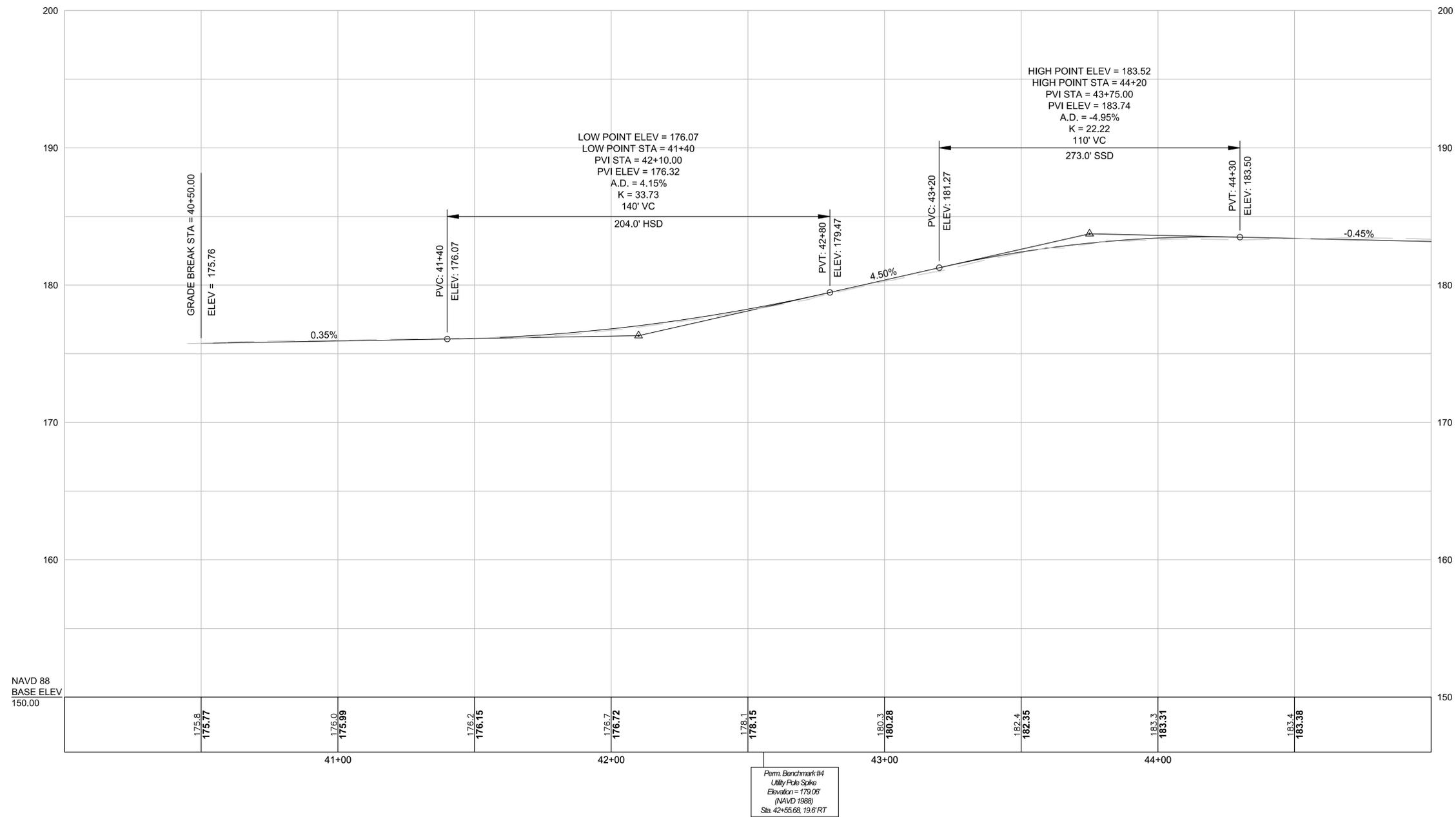


WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

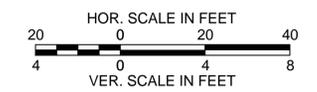
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MA	-	8	16
PROJECT FILE NO.		608036	

FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 5 OF 6

OAK HILL ROAD



CONTINUED ON
SHEET NO. 9

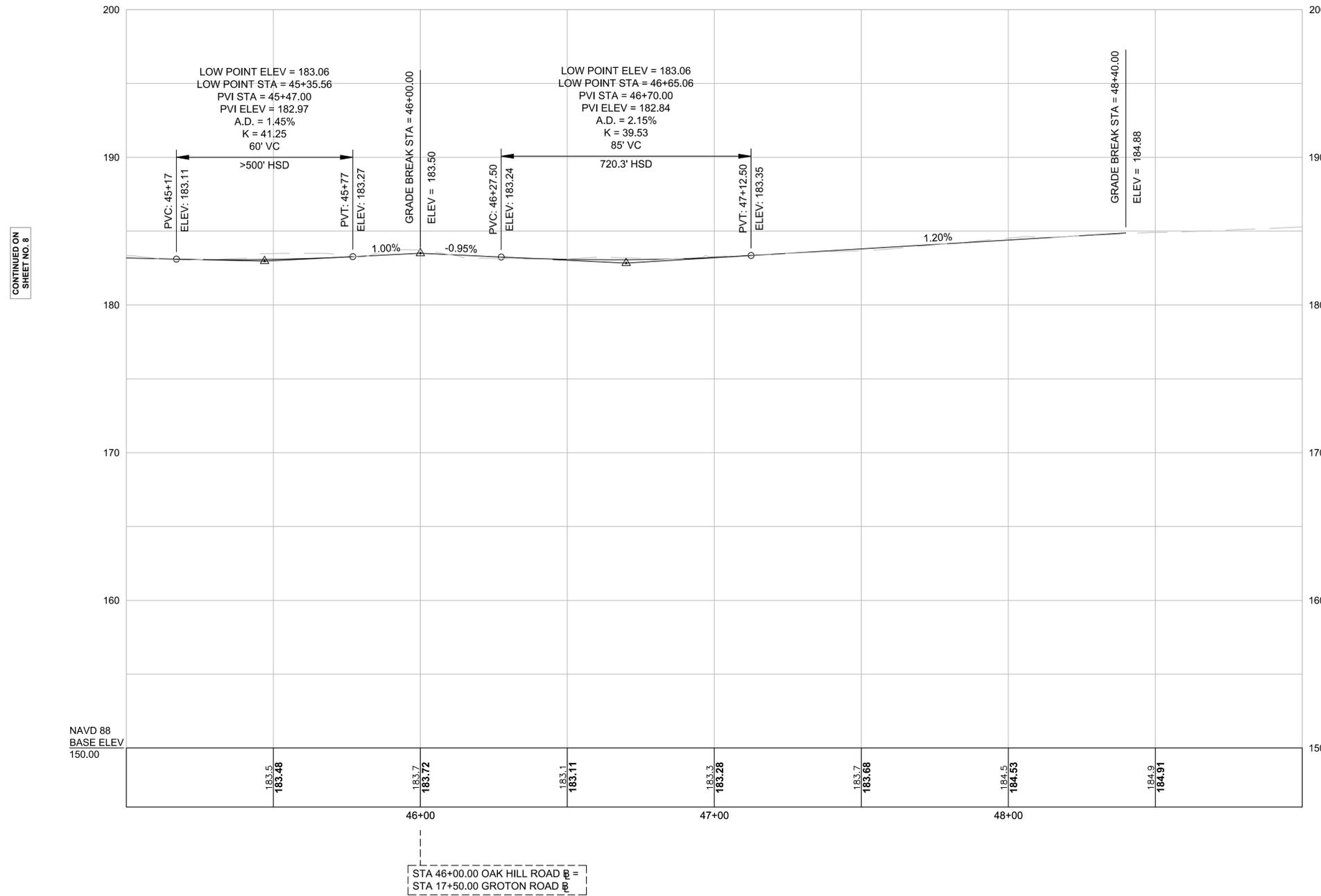


WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	16
PROJECT FILE NO.		608036	

FINAL RIGHT-OF-WAY
CONSTRUCTION PROFILE
SHEET 6 OF 6

OAK HILL ROAD



UNREGISTERED LAND								
PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	RECORDED		EASEMENT		TOTAL PARCEL AREA ACRE (+/-)	REMARKS
			DEED BOOK	PAGE NO.	TYPE	AREA (+/-) SF		
TE-1	12	TOWN OF WESTFORD	10986	226	TEMP	2,574	-	FOR SIDEWALK CONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL
E-1	11,12	TOWN OF WESTFORD	10986	226	PERM	806	0.92	FOR SIDEWALK ACCESS, FOR UTILITY POLE RELOCATION, GUYING, AERIAL ENCROACHMENT
TE-2	12	487 GROTON ROAD, LLC	21923	31	TEMP	1,315	-	FOR SIDEWALK CONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL
E-2	11,12	487 GROTON ROAD, LLC	21923	31	PERM	208	0.96	FOR SIDEWALK ACCESS
TE-3	12,13	THE LAWSON FAMILY TRUST	21876	177	TEMP	3,216	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING
E-3	11,12,13	THE LAWSON FAMILY TRUST	21876	177	PERM	979	1.93	FOR SIDEWALK, FOR UTILITY POLE RELOCATION, AERIAL ENCROACHMENT
TE-4	12,13	PHILBRICK REALTY TRUST	29040	19	TEMP	2,010	-	FOR SIDEWALK CONSTRUCTION, SITE GRADING
E-4	11,12,13	PHILBRICK REALTY TRUST	29040	19	PERM	1,404	0.94	FOR SIDEWALK ACCESS
TE-5	13	498 GROTON ROAD SERIES OF PB&C SERIES, LLC	21880	211	TEMP	3,549	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, TREE REMOVAL, SHRUB TRANSPLANTING, LANDSCAPING
E-5	11,13	498 GROTON ROAD SERIES OF PB&C SERIES, LLC	21880	211	PERM	639	0.92	FOR SIDEWALK, TRAFFIC SIGNAL EQUIPMENT ACCESS, FOR UTILITY POLE RELOCATION, AERIAL ENCROACHMENT
TE-6	13,16	THE LOWELL FIVE CENT SAVINGS BANK	10778	18	TEMP	5,574	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL, SHRUB REMOVAL
E-6	11,13,16	THE LOWELL FIVE CENT SAVINGS BANK	10778	18	PERM	3,205	1.74	FOR SIDEWALK, TRAFFIC SIGNAL EQUIPMENT ACCESS, FOR UTILITY POLE RELOCATION, GUYING, AERIAL ENCROACHMENT
TE-7	13	504 GROTON ROAD REALTY TRUST	14408	87	TEMP	5,190	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL
E-7	11,13	504 GROTON ROAD REALTY TRUST	14408	87	PERM	1,657	1.00	FOR SIDEWALK, TRAFFIC SIGNAL EQUIPMENT ACCESS, FOR UTILITY POLE RELOCATION, GUYING, AERIAL ENCROACHMENT, HYDRANT RELOCATION
TE-8	13	SEXTON REALTY TRUST	21266	263	TEMP	225	-	FOR SITE GRADING, TREE REMOVAL
TE-9	13,14,16	SWEETWOOD PLACE TRUST	7389	151	TEMP	10,603	-	FOR SIDEWALK CONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE PLANTING
TE-10	13,14	M.O.B., LLC	10068	2&6	TEMP	2,801	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL
E-8	11,13,14	M.O.B., LLC	10068	2&6	PERM	2,266	10.50	FOR SIDEWALK, FOR UTILITY POLE RELOCATION, GUYING, AERIAL ENCROACHMENT
TE-11	14	508 GROTON ROAD, LLC	20314	178	TEMP	3,242	-	FOR SIDEWALK RECONSTRUCTION, SITE GRADING, TREE PROTECTION, TREE REMOVAL, EROSION CONTROL
E-9	11,14,15	508 GROTON ROAD, LLC	20314	178	PERM	1,078	3.99	FOR SIDEWALK, FOR UTILITY POLE RELOCATION, GUYING, AERIAL ENCROACHMENT, HYDRANT RELOCATION
D-1	11,14,15	508 GROTON ROAD, LLC	20314	178	PERM	20,392	3.99	FOR STORMWATER MANAGEMENT ACCESS, MAINTENANCE
TE-12	14,15	M.O.B. II, LLC	10758	63	TEMP	7,245	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, WETLAND REPLICATION, TREE PROTECTION, TREE REMOVAL, EROSION CONTROL
S-1	11,15	M.O.B. II, LLC	10758	63	PERM	1,978	6.57	FOR SLOPE ACCESS, GUARDRAIL, DRAINAGE OUTLET, WETLAND REPLICATION
B-2	11,15	M.O.B. II, LLC	10758	63	PERM	781	6.57	FOR BRIDGE ACCESS, MAINTENANCE
TE-13	15	GRANITE STATE CONCRETE, CO INC.	22812	218	TEMP	3,019	-	FOR SITE GRADING, EROSION CONTROL
B-1	11,15	GRANITE STATE CONCRETE, CO INC.	22812	218	PERM	648	28.85	FOR BRIDGE ACCESS, MAINTENANCE
TE-14	15	S BERRIER, LLC	18446	237	TEMP	3,807	-	FOR SIDEWALK CONSTRUCTION, DRIVEWAY RECONSTRUCTION, SITE GRADING, WETLAND REPLICATION, EROSION CONTROL
DS-2	11,15	S BERRIER, LLC	18446	237	PERM	5,238	7.96	FOR SLOPE ACCESS, STORMWATER MANAGEMENT ACCESS, GUARDRAIL, WETLAND REPLICATION
B-3	11,15	S BERRIER, LLC	18446	237	PERM	827	7.96	FOR BRIDGE ACCESS, MAINTENANCE
TE-15	15	POMERLEAU BROS INC.	3590	1	TEMP	994	-	FOR DRIVEWAY RECONSTRUCTION, SITE GRADING
TE-16	16	JOHN F. COYNE AND LORRIANE K. COYNE	2288	248	TEMP	2,031	-	FOR SIDEWALK CONSTRUCTION, SITE GRADING, TREE PROTECTION
E-10	11,16	JOHN F. COYNE AND LORRIANE K. COYNE	2288	248	PERM	96	0.92	FOR UTILITY POLE RELOCATION, GUYING AND AERIAL ENCROACHMENT

**WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD**

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MA	-	10	16
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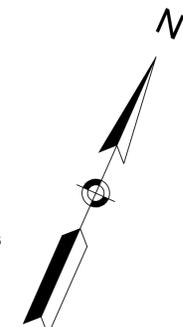
**FINAL RIGHT-OF-WAY
PARCEL SUMMARY SHEET**

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

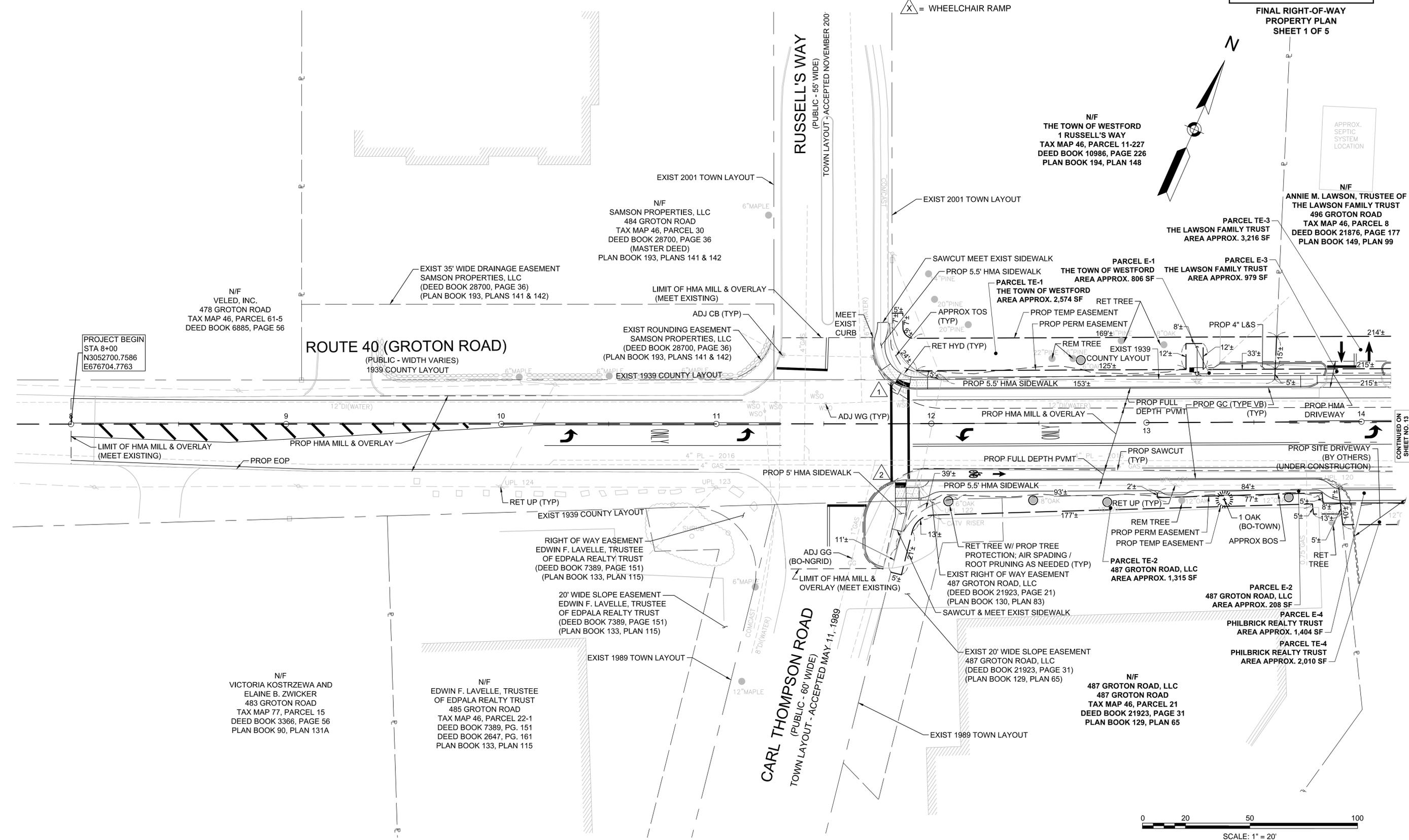
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	16
PROJECT FILE NO.		608036	

FINAL RIGHT-OF-WAY
PROPERTY PLAN
SHEET 1 OF 5

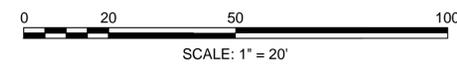
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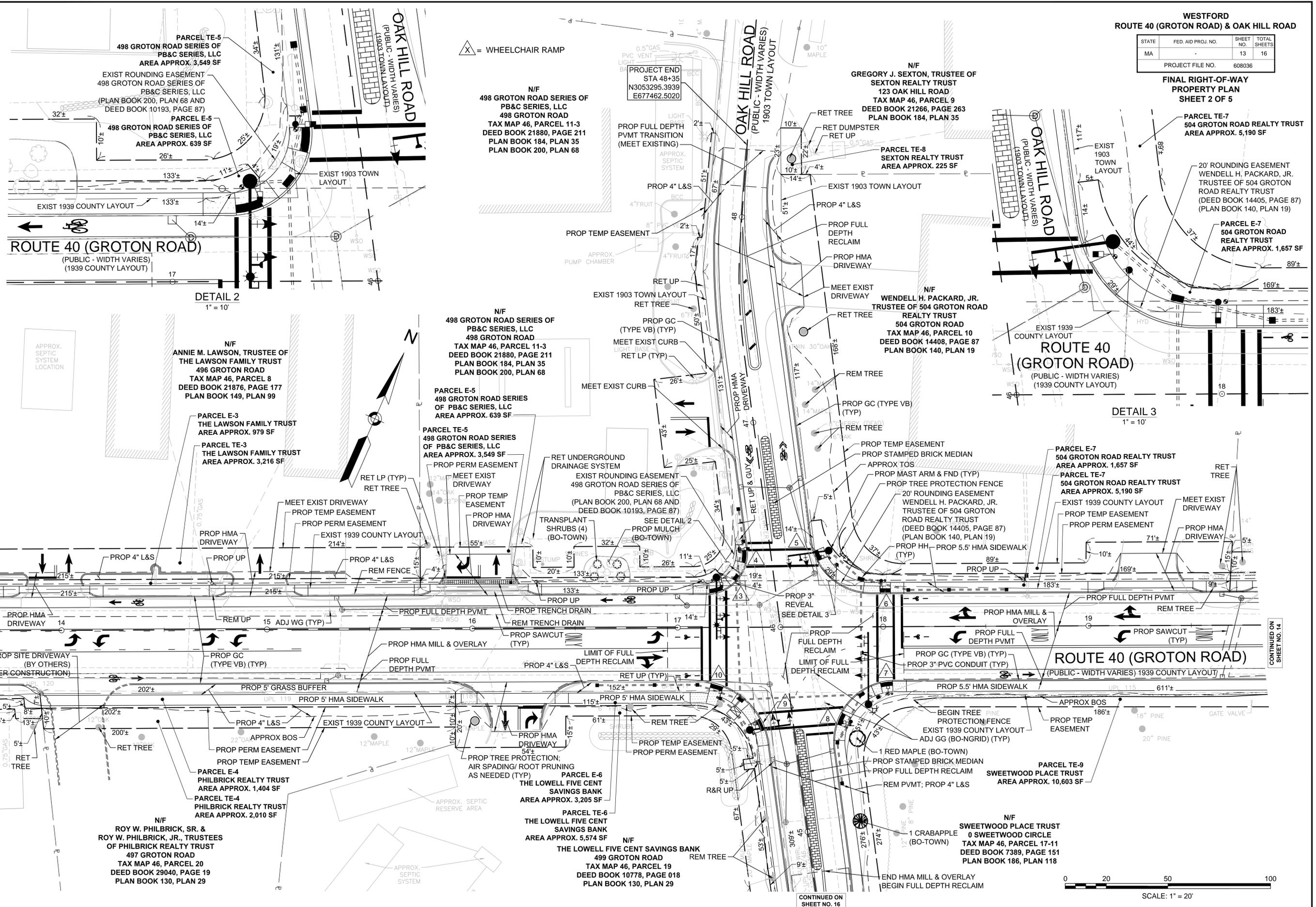
CONTINUED ON
SHEET NO. 13



WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

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FINAL RIGHT-OF-WAY
PROPERTY PLAN
SHEET 2 OF 5



ROUTE 40 (GROTON ROAD)
(PUBLIC - WIDTH VARIES)
(1939 COUNTY LAYOUT)

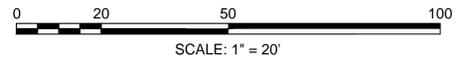
DETAIL 2
1" = 10'

ROUTE 40
(GROTON ROAD)
(PUBLIC - WIDTH VARIES)
(1939 COUNTY LAYOUT)

DETAIL 3
1" = 10'

X = WHEELCHAIR RAMP

PROJECT END
STA 48+35
N3053295.3939
E677462.5020



CONTINUED ON
SHEET NO. 12

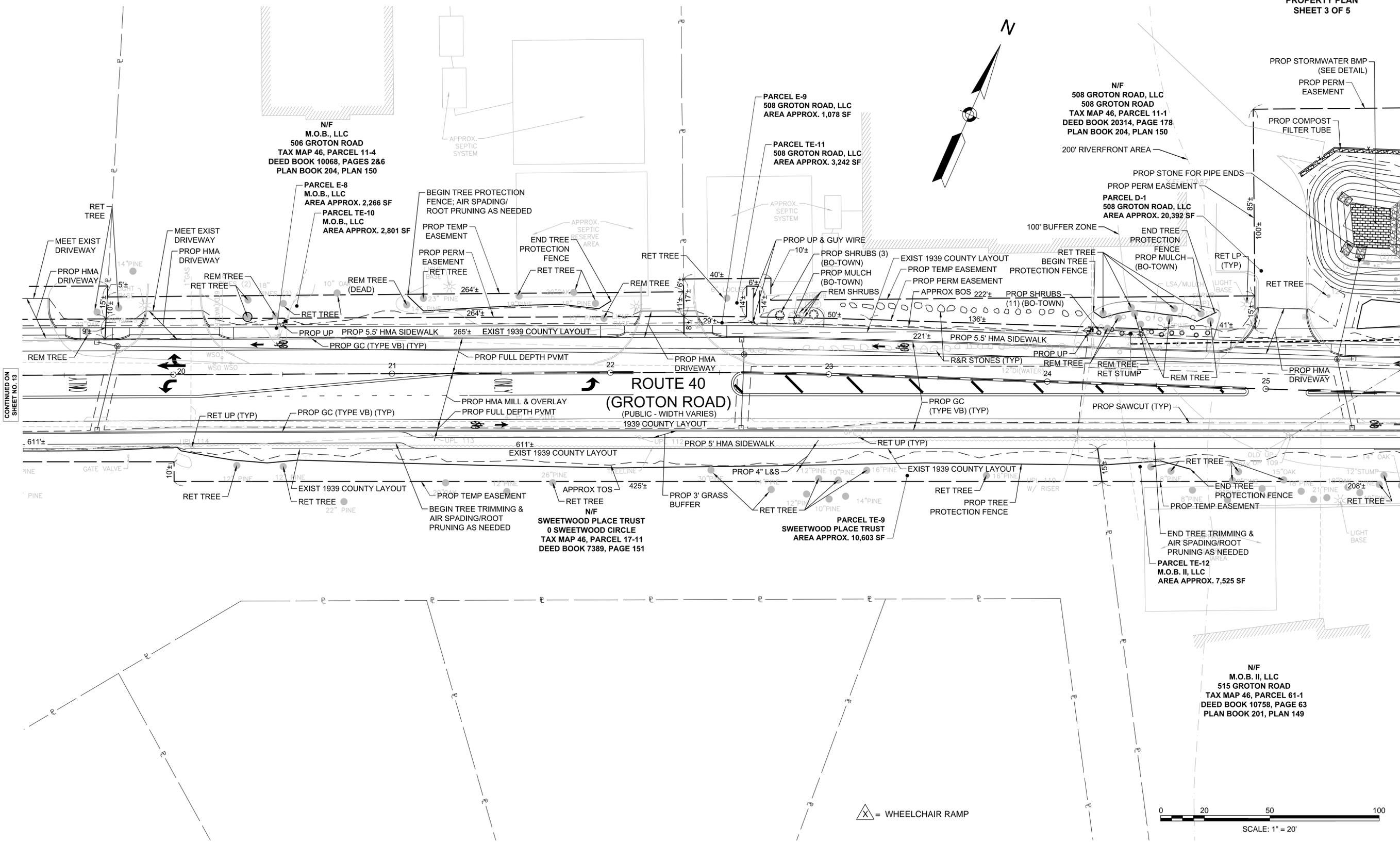
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SHEET NO. 14

CONTINUED ON
SHEET NO. 16

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	16
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FINAL RIGHT-OF-WAY
PROPERTY PLAN
SHEET 3 OF 5



CONTINUED ON
SHEET NO. 13

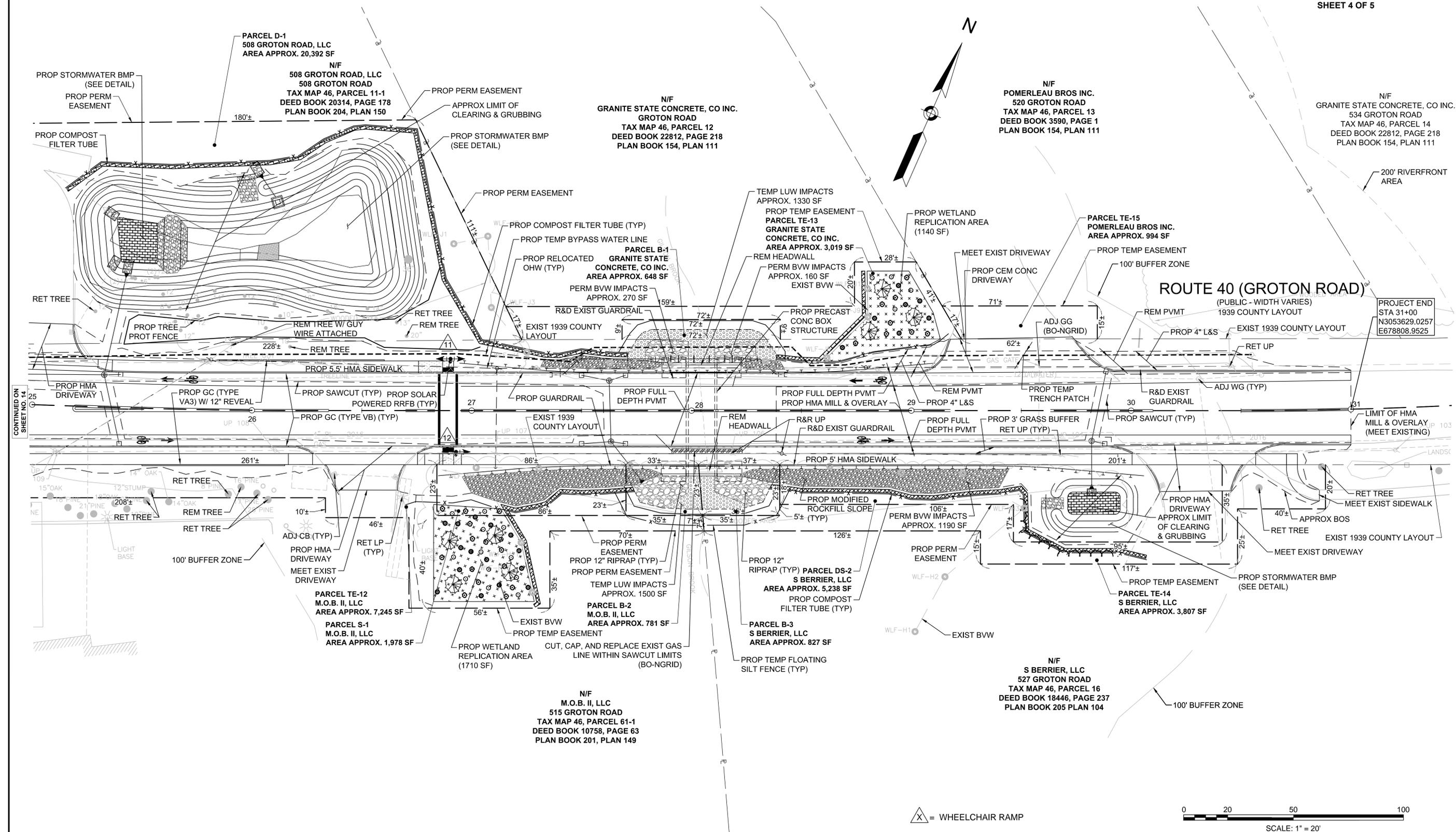
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WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	16

PROJECT FILE NO. 608036

FINAL RIGHT-OF-WAY
PROPERTY PLAN
SHEET 4 OF 5



CONTINUED ON
SHEET NO. 14

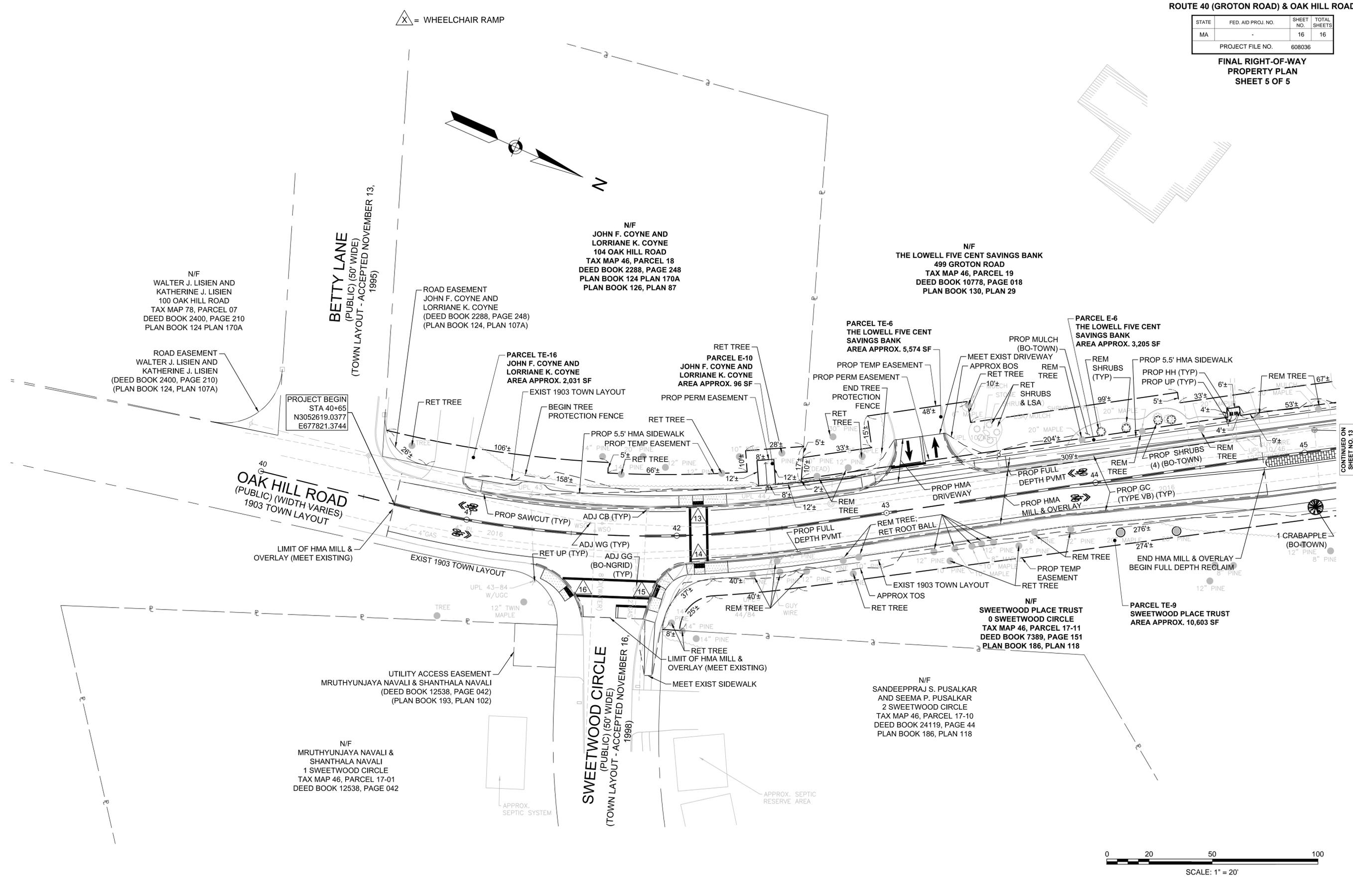
608036\$SERV\$(PROPERTY PLANS).DWG Pinned on 8-Mar-2017 12:02 PM

WESTFORD
ROUTE 40 (GROTON ROAD) & OAK HILL ROAD

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MA	-	16	16
PROJECT FILE NO. 608036			

FINAL RIGHT-OF-WAY
PROPERTY PLAN
SHEET 5 OF 5

X = WHEELCHAIR RAMP



CONTINUED ON
SHEET NO. 13

